

DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 70.28**WELDING INSPECTION REPORT****Resident Engineer:**Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-002689**Date Inspected:** 15-May-2008**Project Name:** SAS Superstructure**OSM Arrival Time:** 900**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1900**Contractor:** Japan Steel Works**Location:** Muroran, Japan**CWI Name:** Tomio Imai**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** Tower, Jacking and Deviation Saddles**Summary of Items Observed:**

The following report is based on METS observations at Japan Steel Works (JSW) in Muroran Japan. Current work: Casting, machining and nondestructive testing of Saddles. Note; The Inspector referenced above is not a Certified Welding Inspector, but a Welding Engineer with JSW.

Fabrication Building number 4

On this date the QA inspector, Mr. Daniel Reyes, traveled to JSW fabrication shop number 4 and observed the in process fit up and tack welding of the foundation for the West Deviation Saddle W2E1. The Intertek Testing Services QC inspector, Mr. Chung Kuan monitored the in process welding and verified the welding parameters, preheat and interpass temperatures with QA representative Mr. Wai Pau monitoring activities at this location.

Foundry

West Deviation Saddle Casting W2-E1

On this date the QA representative Joe Lanz arrived at Japan Steel Works (JSW) of Muroran Japan and traveled to JSW foundry, escorted by JSW representative Mr. Yoshihiro Itoh, to monitor the in process casting repair welding on West Deviation Saddle casting W2-E1. The welding was performed to build up the thickness of the ribs in areas that were found to not meet the minimum thickness of the contract special provisions. The repair locations and repair details for this casting were submitted as number 000643, revision 02. The JSW welding personnel Mr. Noritake Tamuri, identified as number 93-2337 continued the in process repair welding of Rib 8L, repair 3-10,

WELDING INSPECTION REPORT

(Continued Page 2 of 3)

location I-5 and Mr. Kozuya Komai, identified as number 06-8002 continued the in process repair welding of Rib1L, repair 2-2 location B-8 with both utilizing the Shielded Metal Arc Welding (SMAW) process per the welding procedure specification (WPS) SJ 3026-2. The welding was performed in the 2G (Horizontal) position. The filler metal utilized was identified as 5mm diameter, Class E10016-G, Brand name LB-106. The welding parameters and heat control were monitored by Nikko Inspection Services Quality Control (QC) Mr. Imai at periodic intervals of approximately 1.5 hours. The minimum preheat temperature of 150 degrees Celsius and maximum interpass temperature of 260 degrees Celsius was verified to meet the WPS requirements by Mr. Imai. The SMAW welding average amperage and voltage by clamp type meter and travel speed were verified to be within the welding procedure specification parameter range of 180 amps to 240 amps, 22 volts to 26 volts and travel speed of 115 to 280 mm per minute by the QA inspector. The repair on rib 8L, number 3-10 length is 1,110 mm, width is 615 mm and maximum depth is 36 mm with a volume 24,576 cubic centimeters and repair on rib 1L, number 2-2 length is 1,275 mm, width is 615 mm and maximum depth is 30 mm with a volume 23,524 cubic centimeters. The work was not completed on this date and appears to meet the minimum requirements of the welding procedure specification and contract documents.

Tower Saddle Casting T1-1

Two JSW employees were observed removing excess riser material from the exterior surface of the casting. The material was removed utilizing the Air-Carbon Arc method. Work was not completed on this date and appears to meet the minimum requirements of the contract documents.

Tower Saddle Casting T1-1

One JSW employee was observed removing excess material from the exterior surface of the casting. The material was removed utilizing the Air-Carbon Arc method. Work was not completed on this date and appears to meet the minimum requirements of the contract documents.

The following castings were also located in the foundry.

Casting W2-W1, which was poured on 4/29/08, was still cooling in the mold in the foundry.

Casting W2-E2 was in the NDT area of the foundry and no work was being performed at the time of inspection.

The following digital photographs illustrate observations of the activities being performed.

WELDING INSPECTION REPORT

(Continued Page 3 of 3)



Item	Weld Identification	Applicable WPS	CWI Name	Amperage	Voltage	TravelSpeed	Preheat Temp	Remarks
1	W2E1, Rib 1L, ID 3-10	SJ-3026-2	N/A	210 AC	23.5 AC	200 mm/min.		Noritake Tamuri
2	W2E1, Rib 8L, ID 2-2	SJ-3026-2	N/A	200 AC	23.0 AC	195 mm/min.		Kozuya Komai

Summary of Conversations:

There were general conversations with Japan Steel Works, Ltd. personnel Mr. Yoshihiro Itoh relative to the location of the welding and inspection personnel in the foundry.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Venkatesh Iyer, (858) 967-6363, who represents the Office of Structural Materials for your project.

Inspected By:	Lanz,Joe	Quality Assurance Inspector
Reviewed By:	Brasel,Ron	QA Reviewer
